Work Order ID 119225

119225

May-14-14 10:19:13 AM

Item ID: D4634-3 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Middle, Center Ceiling Panel

Start Date: 5/14/14 **Start Qty:** 1.00 *1*

Required Date: 5/14/14 **Req'd Qty:** 1.00 *1*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** MLJ **Date:** 14-05-14 **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr D4634	**Revision Nbr** F								
100	HAND FINISHING THERMOFORMING	0.00							DAS 07 9-89 14/04/11
100 Thermoform	**Memo** Cut Blanks	0.00				X1			14/05/15
Thermoforming Machine									
105	Dry Material	0.00							DAS 07 9-89 14/04/14
105 HandThermo	**Memo** Dry Sheet as per QSI022 POLYCARBONATE	0.00				X1			14/05/15
Hand Finishing Thermoforming									

Temp: 245 deg. F

Time IN: 5:00 PM ~~6:00 AM~~

Time OUT: _____

MAY 15 2014

Per.....

245 deg. F
5:00 PM
6:00 AM

JUN 11 2014

Per.....

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric
- ☐ Cracks
- ☐ Crimp/Kink/Ripple/Wave
- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function
- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 119225

119225

May-14-14 10:19:13 AM

Item ID: D4634-3 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Middle, Center Ceiling Panel

Start Date: 5/14/14 **Start Qty:** 1.00 *1* **Cust Item ID:**

Required Date: 5/14/14 **Req'd Qty:** 1.00 *1* **Customer:**

Reference: **Run Start** *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Stop** *NR2*

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110	THERMOFORMING MACHINE	0.00				x1			DAS 07 9-89 14/04/11 DAS 07 9-89 14/05/15
110 Thermoform Thermoforming Machine	**Memo** Thermoform as per Dwg. D4634-3 and Folio FTA145	0.00							
	Dwg. Rev. F								
	Folio Rev. E								
	Visually inspect for proper formation and texture								
130	HAND FINISHING THERMOFORMING	0.00				x1			BB 14/06/12
130 Thermoform Thermoforming Machine	**Memo** Trim to Finished Dimensions	0.00							
140	QC6- Inspect dimensions to drawing	0.00							DAS 27 9-89 M/6/13
140 QC Quality Control	Dimensional Inspection **Memo** Fill out Inspection Sheet Rev. A	0.00							

Pin →

DQA: [signature] Date: 14/07/11

QA Closed: [signature] Date: 14-6-27

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

Work Order update only ☐

Work Order: 119225

Part No. D4634-3

NCR No. 14-3968

DISPOSITION

Rework	☐
Scrap	☒
Use-as-is	☐
Suspected Unapproved	☐

AGAINST DEPARTMENT/PROCESS

Skid-tube	☐	Crosstube	☐	Water Jet	☐
Machining	☐	Small Fab	☐	Prod. Eng. Coor.	☐
Thermoforming	☒	Finishing	☐	Rec/Store/Packaging	☐
Large Fab	☐	Composite	☐	Supplier	☐

Engineering	☐
Quality	☐
Other	☐
	☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐	14/06/10	# 110	x1	Found after forming Part Hurt Material has Burn Marks ~~in~~ from employee grinding metal near Plastic RC - Material wasn't checked for ~~them~~s Defects Before forming	DAS 16 9-89 Q32042 14/06/10	Scrap + Destroy And Replace M D8668 D4634-3 scrap $5.93	14/06/10	DAS 27 9-89 14/06/13	DAS 16 9-89 Q32042 14/06/10
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☒									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐	Bending
☐	Centre Not Concentric
☐	Cracks
☐	Crimp/Kink/Ripple/Wave
☐	Cuffs
☐	Crushing
☐	Heat Treat
☐	Inspection Strip in Tube
☐	Marks/Chatter
☐	Turning Sequence
☐	Wave/Twist in Tube

General

☐	Bend
☐	BOM/Route
☐	Broken/Damage/Defect
☐	Burrs
☐	Contamination
☐	Countersink
☐	Cut Too Short
☐	Drawing
☐	Drill Holes
☐	Finish
☐	Fit/Function
☐	Folio/Program
☐	Grain
☐	Hardware
☐	Inspection Incomplete/Unqualified
☐	Instructions Incomplete/Unclear
☐	Misaligned/off center
☐	Mislabeled
☐	Misread
☐	Off-set
☐	Out of Calibration
☐	Out of Sequence
☐	Outside Dimensions
☐	Over/Under tolerance
☐	Part Incorrect
☐	Part Lost/Missing
☐	Part Moved
☐	Positioned Wrong
☐	Power Loss/Surge
☐	Pressure/Forced
☐	Set-up
☐	Temperature/Cure
☐	Weld
☐	Wrong Stock Pulled
☒	Other

material wasn't checked of before forming

Work Order ID 119225

119225

May-14-14 10:19:13 AM

Item ID: D4634-3 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Middle, Center Ceiling Panel

Start Date: 5/14/14 **Start Qty:** 1.00 *1*

Required Date: 5/14/14 **Req'd Qty:** 1.00 *1*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC5- Inspect part completeness to step on W/O	0.00 DAS 27 9-89							
150 QC Quality Control	**Memo** N/A	0.00 14/10/13							
160		0.00							
160 Packaging Packaging	Packaging **Memo** Section: MF	0.00							
170	QC21- Final Inspection - Work Order Release	0.00							
170 QC Quality Control	**Memo**	0.00							

① SAD 14/06/12

MCJ 14-06-24

#146.18

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

Picklist Print

May-14-14 10:19:21 AM

Work Order ID: 119225 *119225*

Parent Item: D4634-3 *D4634-3*

Parent Item Name: Middle, Center Ceiling Panel

Start Date: 5/14/14 **Required Date:** 5/14/14

Start Qty: 1.00 **Required Qty:** 1.00

Comments: IPP Rev. A New Issue 12/05/07 DL VERIFIED BY:JLM IPP Rev. B Dwg. Update 13/07/09 DL verf:DD IPP Rev C Dwg Update, Material Change 13/12/18 DL IPP Rev D 14/01/20 Dwg. Update DL

DAS 07 9-89 14/02/11

DAS 07 9-89 14/05/15

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MLEXS.093-F6006-07		Purchased	No			100	sf	1,708.773	17.33 **	18			

MLEXS.093-F6006-07

GE PLASTICS LEXAN SHEET

Location	Loc Qty	Loc Code	
MAT023	1708.77332		
114459	229.26		
123105	38		
124501	543.5		
m128668	620.68		18 sg AT
m129014	277.33332		18 sg AT.

DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

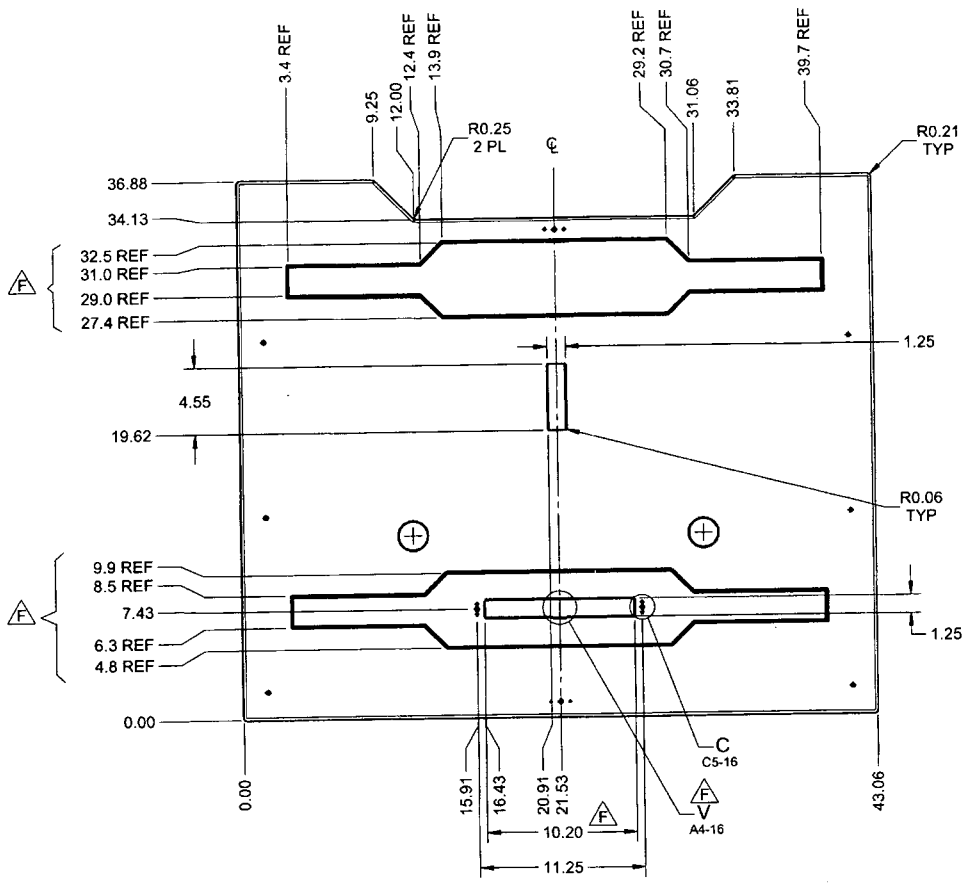
FAULT CATEGORY

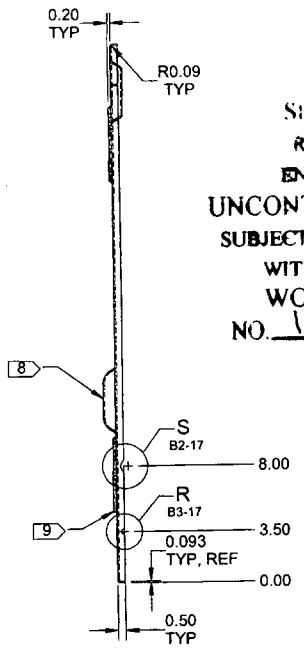
Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other





SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 119225 MLJ
14-05-14

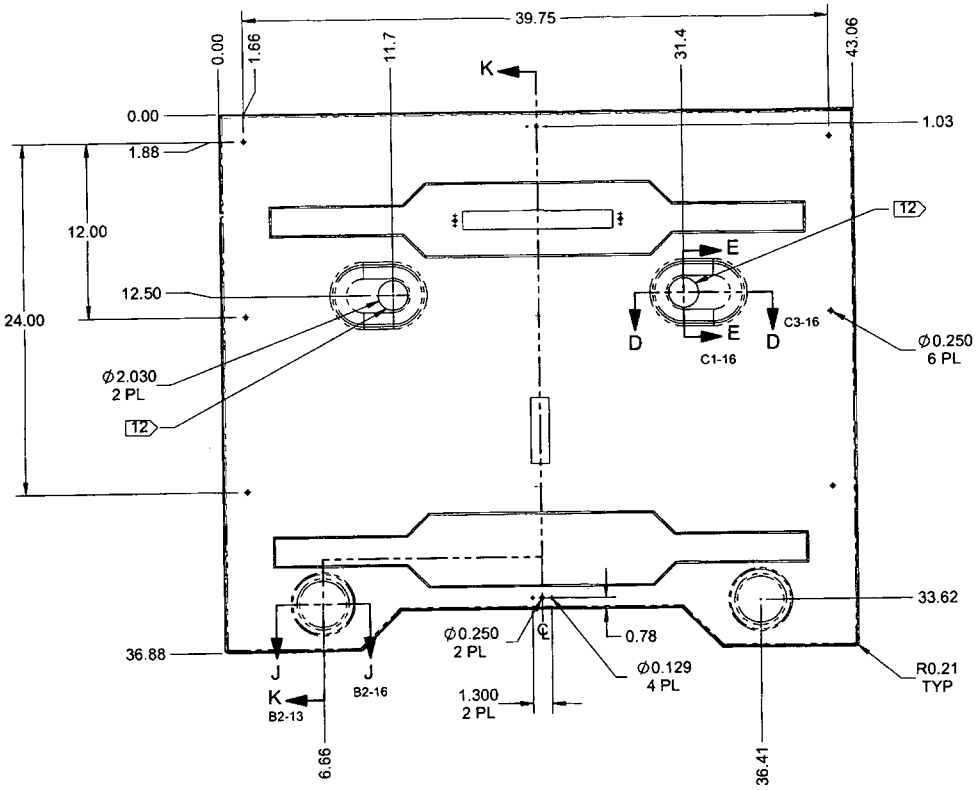
NOTES:
1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK
(REF DART SPEC MLEXS.093-F6006-07)
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 6.49 lbs
8) TEXTURE ON THIS SIDE
9) 0.14 RADIUS NOT SHOWN FOR CLARITY
10) DRILL & TRIM D4634-3 PER TOOL DT9837
11) THERMOFORM PER QSI 022 USING DT9845 TOOL
MIN. THICKNESS AFTER FORMING:
EDGES = 0.060
ELSEWHERE = 0.070
12) LOCATE Ø2.030 AT CENTER OF PROTRUDED SURFACE AS SHOWN

D4634-3 MIDDLE, CENTER CEILING PANEL

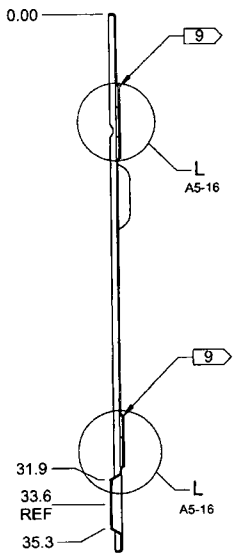
RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. REV. F
CHECKED	DC	D4634 SHEET 12 OF 17
MFG. APPR.		TITLE SCALE
APPROVED		CENTER CEILING PANELS NTS
DE APPR.		
DATE	14.02.03	

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D4634-3 MIDDLE, CENTER CEILING PANEL
AUXILIARY VIEW

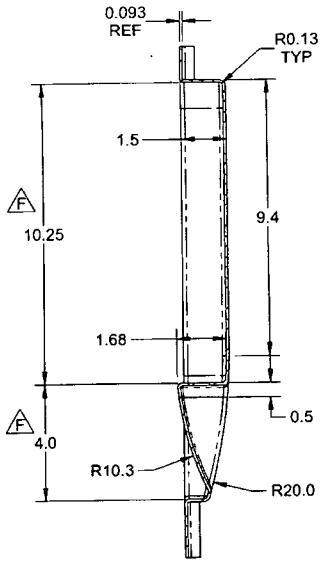


SECTION K-K B6-13

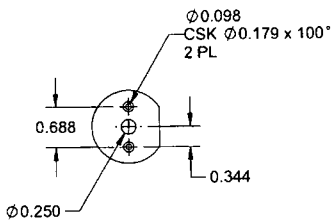
RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4634 REV. F
CHECKED		SHEET 13 OF 17
MFG. APPR.		TITLE CENTER CEILING PANELS
APPROVED		SCALE NTS
DE APPR.		
DATE 14.02.03		

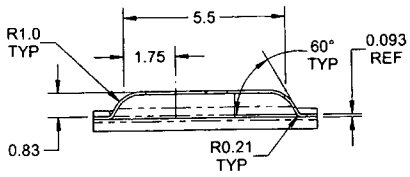
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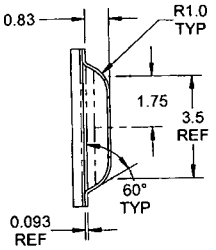
SECTION G-G C5-11
SCALE 4X



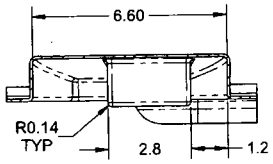
DETAIL C B7-10 B4-12 B4-14
SCALE 4X



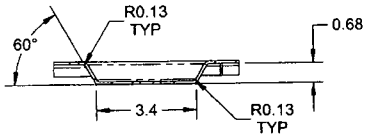
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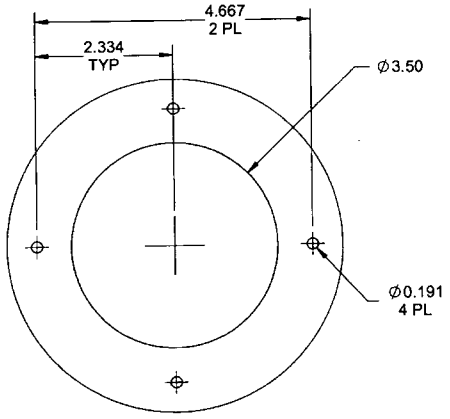
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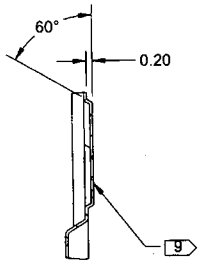
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SCALE 2X



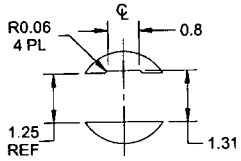
SECTION J-J B6-13
SCALE 2X



DETAIL B B7-10
SCALE 4X
2 PL



DETAIL L B2-13 C2-13 B2-14 C2-14
SCALE 4X
TYP

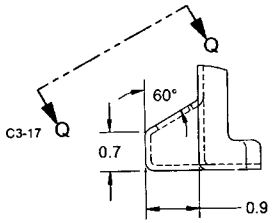


(F) **DETAIL V** C4-10 B4-12 C4-14
SCALE 2X
SIMILAR

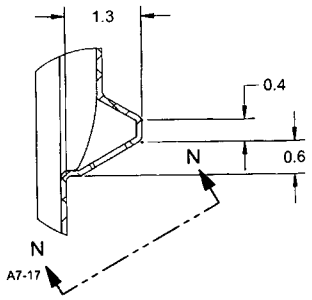
RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4634 REV. F
CHECKED	DC	SHEET 16 OF 17
MFG. APPR.	DC	TITLE CENTER CEILING PANELS SCALE NTS
APPROVED	[illegible]	
DE APPR.	[illegible]	
DATE	14.02.03	

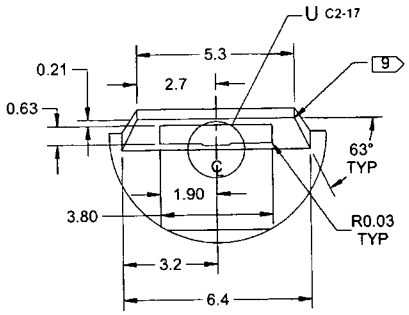
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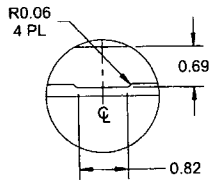
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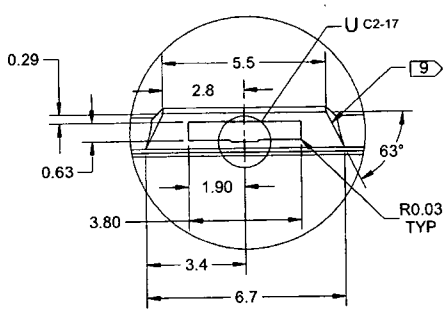
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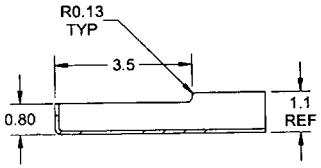
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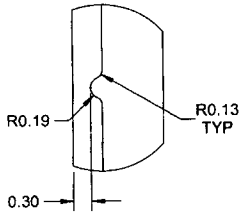
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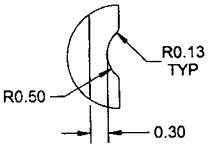
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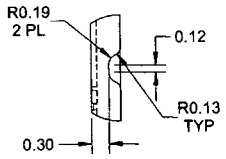
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DETAIL R B3-10 C3-10 B2-12
SCALE 4X



DETAIL S B3-10 C2-12
SCALE 4X



DETAIL T C2-14
SCALE 4X

RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	PC	DRAWING NO. D4634 REV. F
MFG. APPR		SHEET 17 OF 17
APPROVED		TITLE CENTER CEILING PANELS SCALE NTS
DE APPR.		
DATE	14.02.03	

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DART AEROSPACE LTD

Description: Aft Ceiling Panel LH		**Work Order:** 114225
Inspection Drawing: 4635-3	**Rev:** P	**Part Number:** D4634-5

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
3.80	+/- 0.030	3.80	✓		Vern	SEAB-08
17.00	+/- 0.030	17.00	✓		M-T	SEAB-21
32.00	+/- 0.030	32.00	✓		↓	↓
20.5	+/- 0.100	20.5	✓			
26.5	+/- 0.100	26.5	✓		↓	↓
7.0	+/- 0.100	7.0	✓		Vern	SEAB-08
7.00	+/- 0.030	7.00	✓		↓	↓
Ø 2.03	+0.012 -0.000	Ø 2.03	✓			
3.300	+/- 0.010	3.300	✓			
1.650	+/- 0.010	1.650	✓			
3.300	+/- 0.010	3.300	✓			
1.650	+/- 0.010	1.650	✓			
Ø 0.191	+0.005 -0.000	Ø 0.191	✓			
1.300	+/- 0.010	1.300	✓			
0.650	+/- 0.010	0.650	✓			
Ø 0.129	+0.005 -0.000	Ø 0.129	✓		↓	↓

Measured by:	Checked By:	QC inspector:	Engineering Approval (*if necessary*):
SAD	DAS 27 9-89	DAS 27 9-89	
Date 14/06/12	Date 14/6/13	Date 14/6/19	Date